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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Application of : **SHPAK**

Serial No. : 10/664,631

: Group Art Unit: 2618

Filed : September 19, 2003 : Examiner: Tuan H. Nguyen

For : WIRELESS LAN WITH CENTRAL MANAGEMENT OF
ACCESS POINTS

June 25, 2007

RESPONSE TO OFFICIAL ACTION

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

In response to an Official Action dated April 9, 2007, Applicant respectfully submits the following remarks. This application contains claims 1-47, all of which were rejected in the Official Action. Reconsideration is requested in view of the remarks that follow.

Claims 1-5, 10, 14, 16, 17, 19, 23, 33-35 and 40 were rejected under 35 U.S.C. 102(e) over Sherman (U.S. Patent 7,046,690). Applicant respectfully traverses this rejection.

Sherman describes methods for prevention of interference among stations in an 802.11 network, by preventing stations from transmitting at the same time (col. 1, lines 44-54). These methods are described in terms of an exemplary embodiment, cited by the Examiner, in which stations 160-1 and 160-2 belong to a first basic service set BSS1, while stations 160-3 and 160-4 belong to a second basic service set BSS2 (col. 3, lines 41-45). One of the stations in each of these two basic service sets is an access point (col. 3, lines 48-49 and lines 52-53), i.e., each BSS contains a single access point. The other stations may be mobile stations (col. 3, lines 59-60). Regarding the embodiment of Fig. 1, Sherman states specifically that stations 160-2 and 160-3 are access points (col. 4, lines 3-4), while stations 160-1 and 160-4 are mobile stations (col. 4, lines 7-8).

Claim 1 recites a method in which a plurality of access points in a WLAN communicate over the air with a mobile station using a common BSSID. The Examiner maintained that Sherman teaches this feature in Fig. 1 and in col. 3, lines 41-60, in that stations 160-1 and 160-2 both belong to BSS1, and therefore must use a common BSSID (and likewise stations 160-3 and 160-4). As pointed out above, however, Sherman clearly and explicitly states that only one of stations 160-1 and 160-2 is an access point (and likewise only one of stations 160-3 and 160-4). Sherman, in other words, discloses no more than a single access point with the BSSID of BSS1, and a single access point with the BSSID of BSS2. There is no suggestion at all in Sherman of a departure from the conventional 802.11 model, in which each access point has its own, unique BSSID.

Thus, since the cited art neither teaches nor suggests BSSID sharing among multiple access points, Applicant respectfully submits that claim 1 is patentable over the cited art. In view of the patentability of

claim 1, dependent claims 2-5, 10 and 14 are also believed to be patentable.

Applicant is puzzled by the rejection of dependent claims 16, 17, 19, 23, 33-35 and 40 as being anticipated by Sherman, since independent claims 15 and 32, from which these claims depend, were rejected only for obviousness over the combination of Sherman with Myles. In any event, as explained below, Applicant believes independent claims 15 and 32 to be patentable over the cited art, and therefore believes dependent claims 16, 17, 19, 23, 33-35 and 40 to be patentable, as well.

Claims 6-13 were rejected under 35 U.S.C. 103(a) over Sherman in view of either Honkasalo et al. (U.S. Patent Application Publication 2003/0210674), Chari et al. (U.S. Patent 7,016,328), or Melpignano et al. (U.S. Patent Application Publication 2003/0003912). Applicant respectfully traverses these rejections. In view of the patentability of claim 1, as explained above, claims 6-13, which depend from claim 1, are also believed to be patentable.

Claims 15-17 and 32-35 were rejected under 35 U.S.C. 103(a) over Sherman in view of Myles et al. (U.S. Patent 7,184,407). Applicant respectfully traverses this rejection.

Independent claim 15 recites a method in which multiple access points are arranged to communicate on a common frequency channel with a mobile station. When two or more of the access points receive an uplink signal from the mobile station, the manager node selects one of these access points to respond by processing messages sent by these two or more access points.

In rejecting this claim, the Examiner maintained that Sherman teaches arranging a plurality of access points to communicate on a common frequency channel, and receiving an uplink signal from a mobile station at two or more of these access points. In support of this

assertion, the Examiner referred to Fig. 1 and to col. 3, lines 20-34, and col. 4, lines 20-34, in Sherman.

As pointed out above, however, each BSS in Sherman's system includes only a single access point. There is no teaching or suggestion in Sherman that would lead to a conclusion that the access points in BSS1 and BSS2 are arranged to communicate over the air on a common frequency channel, as required by claim 15. On the contrary, assuming BSS1 and BSS2 to be partially or fully overlapping (col. 4, lines 18-19), they must use different frequency channels, as explained in paragraph 0006 of US 2004/0063455 (the published version of the present patent application). On the other hand, if BSS1 and BSS2 are disjoint, then only one of the access points will be in a position to receive uplink signals from each of the mobile stations, whether the access points operate on the same frequency channel or different frequency channels.

There is likewise no evidence or suggestion in Sherman, either in the passage cited by the Examiner or elsewhere, that both of access points 160-2 and 160-3 might receive an uplink signal from one of the mobile stations. On the contrary, the passage in Sherman that the Examiner cited in this regard (col. 4, lines 20-34) explicitly describes a process in which a message is sent (over the wireless medium) from mobile station 160-1 to access point 160-2, then from access point 160-2 to access point 160-3 over distribution system 100, and then from access point 160-3 to mobile station 160-4 over the wireless medium. The only "uplink signal" received over the wireless LAN in this process is transmitted from mobile station 160-1 to access point 160-2, i.e., only a single access point receives the uplink signal. Access point 160-3 does not receive this uplink signal (since if it did, why would it have to wait for a message to be conveyed from access point 160-2?)

The Examiner conceded that Sherman does not teach conveying messages from the access points to a manager node, or processing the messages at the manager node to select one of the access points to respond to the uplink signal, as recited in claim 15. Instead, the Examiner maintained that Myles teaches these elements of the claim.

The Examiner appears to have misread the claim, however. Claim 15, as amended in response to the previous Official Action in this case, recites:

"conveying messages responsively to the uplink signal from the ~~one~~ two or more of the access points over a communication medium linking the access points to a manager node;

"processing the messages at the manager node so as to select one of the access points that received the uplink signal to respond to the uplink signal;"

The Examiner's remarks regarding claim 15 (last paragraph on page 10 in the Official Action) relate to "conveying messages from the one or more of the access points...", rather than "two or more" as recited in the amended claim. Indeed, Myles's Fig. 5 shows only a single access point 503 conveying a reporting frame to manager program 509, and the text in Myles likewise relates only to reporting by a single access point. There is no teaching or suggestion in Myles that two or more access points might receive the same uplink signal and both send reports to a manager node as required by claim 15.

Myles's manager then goes on to send an action frame to access point 505, which sends the action frame on to station 513. In other words, contrary to the plain language of claim 15, as amended, the access point that is chosen by the manager is not one of the access points that received the uplink signal. The chosen access point does not respond to the uplink signal, but rather

transmits an action frame to a different mobile station altogether.

Thus, to summarize, the cited art fails to teach or suggest a number of the limitations of claim 15. Therefore, claim 15 is patentable over the cited art. In view of the patentability of claim 15, dependent claims 16 and 17, which depend from claim 15, are also believed to be patentable.

Independent claim 32 recites apparatus for mobile communications in which a plurality of access points communicate over the air on a common frequency channel using a common BSSID. A manager node processes messages transmitted over a communication medium linking the access points in order to select one of the access points to respond to uplink signals from a mobile station.

Thus, claim 32, like claim 1, recites the use of a common BSSID by multiple access points in a WLAN. As Applicant pointed out above in reference to claim 1, Sherman neither teaches nor suggests that a given BSS might contain more than a single access point, and hence cannot be taken to suggest that multiple access points may share the same BSSID. There is no implication at all in Sherman of a departure from the conventional 802.11 model in which each access point has its own, unique BSSID.

Therefore, claim 32 is patentable over the cited art. In view of the patentability of claim 32, dependent claims 33-35 are also believed to be patentable.

Dependent claims 18-31 and 36-47 were rejected under 35 U.S.C. 103(a) over Sherman in view of Myles and further in view of one or more of Honkasalo, Chari, and Melpignano. Applicant respectfully traverses these rejections. In view of the patentability of independent claims 15 and 32, as explained above, claims 18-31 and 36-47, which depend from either claim 15 or claim 32, are also believed to be patentable.

Furthermore, notwithstanding the patentability of the independent claims in this application, Applicant believes that the dependent claims recite independently-patentable subject matter. In the interest of brevity, however, Applicant will refrain from arguing the independent patentability of the dependent claims at present.

Applicant believes the remarks presented above to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these remarks, all of the claims now pending in this application are believed to be in condition for allowance. Prompt notice to this effect is requested.

Respectfully submitted,

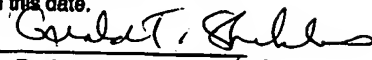
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